AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A wireless network, comprising:

a plurality of subnetworks, each subnetwork comprising:

at least one network switch; and

at least one air access point comprised of an air interface, an access control module and an air access point router, wherein the air access point router is coupled to the network switch;

at least one router that is connected to the network switch of each of the plurality of subnetworks; and

at least one gateway router that is connected to the plurality of subnetworks;

wherein said wireless network is operated by a plurality of virtual operators and access to services provided by each of the virtual operators is supported by using multiprotocol label switching.

2. (original): The wireless network as claimed in claim 1, wherein the gateway router is coupled to a mobile telephone network.

3. (original): The wireless network as claimed in claim 1, wherein the gateway router is coupled to a public switched telephone network.

4. (original): The wireless network as claimed in claim 1, wherein the gateway router is coupled to a network operated by a service provider.

5. (original): The wireless network as claimed in claim 4, wherein the service provider is a virtual operator.

6. (original): The wireless network as claimed in claim 5, wherein a server having a database of mobile subscriber public keys is coupled to the network operated by the service provider.

7. (original): The wireless network as claimed in claim 6, wherein the access control module authenticates a mobile subscriber that is accessing the wireless network by requesting subscriber public keys stored in the database.

8. (original): The wireless network as claimed in claim 1, wherein the at least one gateway router is a plurality of gateway routers.

9. (original): The wireless network as claimed in claim 1, wherein the access module of each of the air access points authenticates a mobile subscriber attempting to access the wireless network through the air interface coupled to the access module.

10. (original): The wireless network as claimed in claim 9, wherein a mobile subscriber is assigned an IP address dynamically when the mobile subscriber accesses the wireless network.

11. (previously presented): A wireless network operated by a plurality of virtual operators, comprising:

a plurality of subnetworks, each subnetwork comprising:

at least one network switch; and

at least one air access point comprised of an air interface, an access control module and an air access point router, wherein the air access point router is coupled to the network switch;

at least one router that is connected to the network switch of each of the plurality of subnetworks; and

at least one gateway router that is connected to the plurality of subnetworks,

wherein access to services provided by each of the virtual operators is supported by using multiprotocol label switching to route mobile subscriber data between the at least one gateway router and the plurality of subnetworks.

12. (original): The wireless network as claimed in claim 11, wherein at least one of the subnetworks has at least one multiprotocol label switching path so at least one of the virtual operators can be accessed through the air access point of the subnetwork.

13. (original): The wireless network as claimed in claim 11, wherein each of the subnetworks has at least one multiprotocol label switching path so at least one of the virtual operators can be accessed through the air access point of each of the subnetworks.

14. (original): The wireless network as claimed in claim 11, wherein each of the subnetworks has a plurality of multiprotocol label switching paths so a plurality of virtual operators can be accessed through the air access point of each of the subnetworks.

15. (original): The wireless network as claimed in claim 11, wherein each of the plurality of virtual operators is assigned an identification tag that is embedded in a packet header of data that is traversing the wireless network.

16. (original): The wireless network as claimed in claim 11, wherein tunnels based on multiprotocol label switching are provided between the at least one gateway router and the air access point in at least one of the subnetworks.

17. (original): The wireless network as claimed in claim 16, wherein the headers of data packets traversing the wireless network are assigned multiprotocol label switching information, and the network switches of the subnetworks route the data packets through the tunnels based on the headers of the data packets.

Claims 18-65. (canceled).

66. (previously presented): A method of operating a wireless network in which mobile services are provided by a plurality of virtual operators, wherein the wireless network comprises a plurality of subnetworks, each subnetwork comprising at least one network switch, and at least one air access point comprised of an air interface, an access control module and

-an air access point router, wherein the air access point router is coupled to the network switch, at least one router that is connected to the network switch of each of the plurality of subnetworks, and at least one gateway router that is connected to the plurality of subnetworks, the method comprising:

creating a plurality of multiprotocol label switching paths between the air access point in each subnetwork and the at least one gateway router;

assigning each of the multiprotocol label switching paths to one of the plurality of virtual operators so that the virtual operators can be accessed through the air access point of each of the subnetworks; and

assigning each of the plurality of virtual operators an identification tag that is embedded in a packet header of data that is traversing the wireless network.

67. (original): The method of operating a wireless network as claimed in claim 66, the method further comprising assigning multiprotocol label switching information to the headers of data packets traversing the wireless network, and the network switches of the subnetworks route the data packets through the multiprotocol label switching paths based on the headers of the data packets.

68. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises allowing a mobile subscriber access to a predefined list of services based on the type of subscription that the mobile subscriber has with a virtual operator.

69. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises providing access to a predefined list of services in exchange for advertising.

70. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises excluding access to a predefined set of information sources.

71. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises limiting a mobile subscriber's access to the wireless network based upon a virtual operator's QoS limitations.

72. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises collecting accounting information to be sent to the accounting systems of each virtual operator that provides access to the wireless network.

73. (original): The method of operating a wireless network as claimed in claim 72, wherein the accounting information comprises session duration, requested services and level of service provided.

74. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises assessing each mobile subscriber a flat fee for unlimited access to the wireless network.

75. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises assessing each mobile subscriber a fee for each instance that the mobile subscriber accesses the wireless network.

76. (original): The method of operating a wireless network as claimed in claim 66, wherein the method further comprises assessing each mobile subscriber a fee based upon the total amount of time that a mobile subscriber accesses the wireless network.

77. (original): The method of operating a wireless network as claimed in claim 66, wherein transferring a properly authenticated user from a first air access point to a second air access point comprises:

fetching the profile of the mobile subscriber from the first air access point and storing it at the second air access point;

signalling the termination of an accounting session that was initiated when the mobile subscriber was granted access at the first air access point;

establishing a new session at the second air access point; and

starting a new accounting session at the second air access point.

78. (original): The method of operating a wireless network as claimed in claim 77, wherein the profile of the mobile subscriber at the first air access point comprises a public key associated with the mobile subscriber, access policies associated with the session at the first air access point, the IP address of the mobile terminal and the session key shared by the mobile subscriber and the first air access point.

79. (original): The method of operating a wireless network as claimed in claim 78, wherein establishing a new session at the second air access point comprises:

generating a session key to be shared by the mobile subscriber and the second air access point;

encrypting both the session key to be shared by the mobile subscriber and the second air access point and the session key shared by the mobile subscriber and the first air access point with the public key associated with the mobile subscriber and forwarding the encrypted result to the mobile terminal;

decrypting the encrypted result and determining if the session key to be shared by the mobile subscriber and the second air access point and the session key shared by the mobile subscriber and the first air access point match; and

if that determination is true, establishing a secure connection between the second air access point and the mobile terminal; otherwise, terminating the access granted to the mobile terminal.

80. (original): The method of operating a wireless network as claimed in claim 79, wherein establishing a new session at the second air access point further comprises informing the at least one gateway router that the mobile subscriber has established a session at the second air access point.